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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/744,552

01/24/2001

Jorg Heuer

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9604

29177

7590

08/23/2004

BELL, BOYD & LLOYD, LLC

P. O. BOX 1135

CHICAGO, IL 60690-1135

EXAMINER

WONG, ALLEN C

ART UNIT

PAPER NUMBER

2613

6

DATE MAILED: 08/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/744,552

Applicant(s)

HEUER ET AL.

Examiner

Allen Wong

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters; prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-36 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 19-36 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 19-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeong (EP 0 689 359 A2) in view of De Haan (6,278,736).

Regarding claims 19 and 28, Jeong discloses a method and system for determining movement underlying a digitized image made up of a plurality of pixels, the system comprising:

a processor capable of grouping the pixels into image blocks (fig.3, note element 56 stores images into image blocks that comprise of pixels);

calculating a movement estimation for each image block and determining a movement vector for each image block (fig.3, element 54);

assigning a movement vector to the respective image block (fig.3, note output of element 54 is LMV which is the resulting motion vector assigned to the respective image block); and

selecting movement vectors for assignment to a respective image block situated in a prescribed region of the digitized image (fig.4A and 4B, note the motion vector LMV1 is calculated for the first search area and motion vector LMV2 is calculated for the second search area).

Jeong discloses the additional parameter of calculation of global motion vectors (fig.3, element 53). Jeong does not specifically disclose determining parameters of a movement model from the selected movement vectors, whereby movement of the digitized image is described by the determined movement model. However, De Haan teaches that determining parameters of a movement model from the selected movement vectors, whereby movement of the digitized image is described by the determined movement model (col.2, ln.60 to col.3, ln.26; De Haan discloses the use of global motion vectors to extract parameters in a movement model for accurately representing the image taken by a camera where the camera may tilt, pan or shake which causes the necessity of to use global motion vectors). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Jeong and De Haan, as a whole, for obtaining an economical, efficient and less complex motion estimation so as to precisely estimate motion vectors in order to produce high quality images for viewing (De Haan col.1, ln.66-67).

Regarding claims 20 and 29, Jeong discloses wherein the prescribed region is formed by image blocks situated at a prescribed first distance from an edge of the digitized image (pg.6, ln.55 to pg.7, ln.5; note the prescribed region is formed by image blocks and this region can be situated at any distance).

Regarding claims 21 and 30, Jeong discloses wherein the prescribed region is formed by image blocks situated at a prescribed second distance from the middle of the digitized image (pg.6, ln.55 to pg.7, ln.5; note the prescribed region is formed by image blocks and this region can be situated at any distance).

Regarding claims 22 and 31, Jeong discloses wherein the prescribed region is varied iteratively (pg.6, ln.55 to pg.7, ln.5; note the prescribed region is formed by image blocks and this region can be situated at any distance).

Regarding claims 23 and 32, Jeong discloses wherein the movement estimation is performed by a blockwise comparison of the image block with an image block in a temporally preceding image which, inside a search space of prescribed shape and size, is displaced by a prescribed value relative to the image block in the digitized image (pg.6, ln.55 to pg.7, ln.5 and see figs. 4A and 4B).

Regarding claims 24 and 33, Jeong discloses wherein the determined movement is compensated (fig.3, element 55).

Regarding claims 25-27 and 34-36, Jeong does not specifically disclose further comprising a mobile device. However, De Haan teaches the use of a mobile device, ie. camera, for capturing the digitized image (col.2, ln.60 to col.3, ln.26). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Jeong and De Haan, as a whole, for obtaining an economical, efficient and less complex motion estimation so as to precisely estimate motion vectors in order to produce high quality images for viewing (De Haan col.1, ln.66-67).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (703) 306-5978. The examiner can normally be reached on Mondays to Thursdays from 8am-6pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Kelley can be reached on (703) 305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Allen Wong
Examiner
Art Unit 2613

AW
8/19/04